

Subpart 56.30—Selection and Limitations of Piping Joints

§ 56.30–1 Scope (replaces 110 through 118).

The selection and limitation of piping joints must be as required by this subpart rather than as required by 110 through 118 of ASME B31.1 (incorporated by reference; see 46 CFR 56.01–2); however, certain requirements are marked “reproduced” in this subpart.

[USCG–2003–16630, 73 FR 65177, Oct. 31, 2008]

§ 56.30–3 Piping joints (reproduces 110).

The type of piping joint used shall be suitable for the design conditions and shall be selected with consideration of joint tightness, mechanical strength and the nature of the fluid handled.

§ 56.30–5 Welded joints.

(a) *General.* Welded joints may be used for materials for which welding procedures, welders, and welding machine operators have been qualified in accordance with part 57 of this subchapter.

(b) *Butt welds—general.* Butt welds may be made with or without backing or insert rings within the limitations established in § 56.70–15. When the use of backing rings will result in undesirable conditions such as severe stress concentrations, corrosion or erosion, then:

(1) The backing rings shall be removed and the inside of the joint ground smooth, or

(2) The joint shall be welded without backing rings, or

(3) Consumable insert rings must be used. Commonly used types of butt welding end preparations are shown in ASME B16.25 (incorporated by reference; see 46 CFR 56.01–2).

(4) Restrictions as to the use of backing rings appear for the low temperature piping systems and should be checked when designing for these systems.

(c) *Socket welds (Modifies 127.3.3A.).*

(1) Each socket weld must conform to ASME B16.11 (incorporated by reference; see 46 CFR 56.01–2), to applicable standards listed in 46 CFR 56.60–1, Table 56.60–1(b), and to Figure 127.4.4C

in ASME B31.1 (incorporated by reference; see 46 CFR 56.01–2) as modified by § 56.30–10(b)(4) of this part. A gap of approximately one-sixteenth inch between the end of the pipe and the bottom of the socket must be provided before welding. This may best be provided by bottoming the pipe and backing off slightly before tacking.

(2) Socket welds must not be used where severe erosion or crevice corrosion is expected to occur. Restrictions on the use of socket welds appear in § 56.70–15(d)(3) of this part for Class I service and in § 56.50–105 of this part for low temperature service. These sections should be checked when designing for these systems. See § 56.70–15(d)(4) of this part for Class II service.

(3) (*Reproduces 111.3.4.*) Drains and by-passes may be attached to a fitting or valve by socket welding provided the socket depth, bore diameter and shoulder thickness conform to ASME B16.11.

(d) *Fillet welds.* A fillet weld may vary from convex to concave. The size of a fillet weld is determined as shown in Figure 127.4.4A of ASME B31.1. Fillet-weld details for socket-welding components must meet § 56.30–5(c). Fillet-weld details for flanges must meet § 56.30–10 of this part (see also § 56.70–15(d)(3) and (4) of this part for applications of fillet welds).

(e) *Seal welds.* Seal welds may be used but shall not be considered as contributing any strength to the joint.

[CGFR 68–82, 33 FR 18843, Dec. 18, 1968, as amended by CGFR 69–127, 35 FR 9978, June 17, 1970; CGD 77–140, 54 FR 40605, Oct. 2, 1989; CGD 95–012, 60 FR 48050, Sept. 18, 1995; USCG–2003–16630, 73 FR 65177, Oct. 31, 2008]

§ 56.30–10 Flanged joints (modifies 104.5.1(a)).

(a) Flanged or butt-welded joints are required for Classes I and I-L piping for nominal diameters exceeding 2 inches, except as otherwise specified in this subchapter.

(b) Flanges may be attached by any method shown in Figure 56.30–10(b) or by any additional means that may be approved by the Marine Safety Center. Pressure temperature ratings of the appropriate ANSI/ASME standard must not be exceeded.

(1) *Figure 56.30–10(b), Method 1.* Flanges with screw threads may be